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If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Art Unit: 2617

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Response to Arguments

1. Applicant's arguments with respect to claims 1-19, and 24 have been considered but are moot in view of the new ground(s) of rejection.

During Independent claims 1, 18 and 24 has an "if-statement" limitation which is non-limiting, giving two scenarios. Since the limitations only dictate one scenario, the other scenario is opened to Examiner's interpretation. The limitation states, in claims 1 and 18, that "if an error is detected..." and in claim 24 the limitation states that "if a packet is missing..." Therefore, if the system can operate normally without an error, the limitations would be inconsequential. Therefore the invention is interpreted as such.

Therefore, claims depending on those "if-statement" limitations (claims 2-6, and 17) are also inconsequential.

Examiner did mention this deficiency over a brief telephonic discussion with Applicant's representatives. In interest of advancing prosecution, Examiner would like to suggest rectifying these "if-statement" limitations. Claims 1 and 18 should be specifically drawn to the feature of "detecting an error within..." and claim 24 should be claimed to

the feature of "detecting a packet number is missing..." Until this deficiency is corrected, the limitations cannot be incorporated into the claim.

Regarding claim 20, Applicant argued that Willenegger in view of Strawczynski does not disclose the limitation of "determining a variable forward error correcting (FEC) code that provides a desired degree of robustness corresponding to the service and a possible loss data packets when the wireless terminal handovers from the first base station to the second base station, wherein the first base station and the second base station transmit bursts of data packets" and that the cited references, when discussing FEC at all, merely refer to use of predetermined FEC codes, which is different from FEC codes in claim 20, which is determined by the processor.

Due to the broadness of the claim, a variable forward error correcting code which is used to prevent loss of data during a conventional handover is disclosed by Strawczynski wherein the FEC coding is applied in variable techniques: Col 4, lines 28-31).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 18 rejected under 35 U.S.C. 102(e) as being anticipated by

Willenegger et al. (US 20030207696).

Regarding claim 18, Willenegger discloses a wireless terminal that receives data from a wireless system, the wireless system comprising a first base station and a second base station (Page 2, [0023], [0024], [0025]), comprising:

a storage buffer (Fig. 2, no. 262; Page 10, [0181]);

a timing module (Page 3, [0035]);

a radio module that communicates with the wireless system over a radio channel (Fig. 2, no. 250);

a processor that receives an indication from the timing module that one of a plurality of bursts of data packets is being transmitted and that stores said one of plurality of bursts into the storage buffer, the processor configured to perform (Fig. 2, no. 256; Page 2, [0029]):

(a) receiving a first burst of data packets from the first base station, wherein the first burst corresponds to an associated service (Page 2, [0026]);

(b) performing a handover from the first base station to the second base station
(Page 2, [0025]);

(c) receiving a second burst of data packets from the second base station,
wherein the second burst corresponds to the associated service (Page 15, [0241], Page
16 [0253]);

**3. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by
Strawczynski et al. (US6381232).**

Regarding claim 24, Strawczynski discloses a method for processing data
corresponding to a first service and received from a wireless system that includes a first
base station and a second base station (Abstract; Col 1, lines 37-51), the method
comprising:

(a) receiving a first burst of data packets from the first base station, wherein the
first burst corresponds to the associated service (Col 5, lines 37-45);

(b) performing a handover from the first base station to the second base station;
receiving a second burst of data packets from the second base station (Col 5, lines 37-
45), wherein the second burst corresponds to the associated service;

(d) determining packet numbers that are associated with received packets of the
second burst, wherein the packet numbers correspond to a transmitted packet ordering
(Col 1, lines 57-60; Col 2, lines 6-8; Col 3, lines 23, 33-35; Col 14, line 19 – 64; Col 15,
lines 48 – Col 16, line 49; Col 17, lines 14 – 40; Col 6, lines 47-65);

(f) calculating the missing data packet from the second burst of data packets in
accordance with a forward error correcting (FEC) code (Col 9, lines 19-22).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 7, 12, 13, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Periyalwar et al. (US 6018662; hereinafter Periyalwar) in view of Demetrescu et al. (US 6647262; hereinafter Demetrescu).**

Regarding claim 1, Periyalwar discloses a method for processing data corresponding to a first service and received from a wireless system that includes a first base station and a second base station (Abstract), the method comprising:

(a) receiving at a wireless terminal a first burst of data packets from the first base station, wherein the first burst corresponds to the first service (in communication with the first base station: Col 4, lines 58-60; Col 8, lines 60-62; servicing a call Col 8, lines 21-23);

(b) performing a handover from the first base station to the second base station (performing handover procedures: Col 5, lines 4-9);

(c) receiving second burst of data packets from the second base station, wherein the second burst corresponds with the first service (establishing a communication link with the second base station: Col 5, lines 12-21; servicing a call: Col 8, lines 21-23).

Even though Periyalwar does not distinctively disclose that the communication between the wireless terminal and the base stations to be bursts of packets, which is known in the art that; however, Demetrescu does clearly disclose this fact (Col 4, lines 51-60).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Demetrescu's disclosure to further provide handover controls with control packet data.

Regarding claim 7, Periyalwar discloses the method of claim 1, wherein the first FEC code comprises a block forward error correcting (FEC) code (Col 5, lines 39-41).

Regarding claim 12, Periyalwar discloses the method of claim 1, wherein (b) comprises:

(i) measuring a first signal characteristic of a first signal that is transmitted by the first base station (Col 5, lines 58-67);

(ii) measuring a second characteristic of a second signal that is transmitted by the second base station (Col 5, lines 58-67); and

(iii) if the first signal characteristic satisfies a first predefined criterion and if the second signal characteristic satisfies a second predefined criterion, switching reception from the first base station to the second base station (Col 5, lines 58-67).

Regarding claim 13, Periyalwar discloses disclose the method of claim 1, wherein the first base station is associated with a first center frequency value and the second base station is associated with a second center frequency value (base stations have specific frequencies: Col 6, lines 30-35).

Regarding claim 15, Periyalwar in view of Demetrescu the method of claim 1, wherein the first service is an Internet Protocol (IP) service (IP address: Col 6, lines 28-37).

Regarding claim 16, it is well known in the art that in a cellular network instructions are in a computer-readable medium having computer-executable instructions such as instructions for performing the steps recited in claim 1.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Periyalwar in view of Demetrescu in further view of Scheller.

Regarding claim 8, Periyalwar in view of Demetrescu discloses all the particulars of the claim except, the method of claim 1, wherein the first FEC code comprises an expandable forward error correcting code.

However, Scheller does disclose the method of claim 1, wherein the first FEC code comprises an expandable forward error correcting code (Col 5, lines 37-46, 61-67 – Col 6, lines 1-4).

It would have been obvious to one ordinarily skilled in the art at the time of invention to use Scheller's disclosure in combination with Periyalwar in view of Demetrescu to have the FEC code be expanded to optimize particular data transmission.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Periyalwar in view of Demetrescu in further view of Campanella (US 5864546).

Regarding claim 9, even though Periyalwar discloses the use of FEC coding, which can render the limitation of receiving configuration about the first FEC code obvious; however Campanella does distinctively discloses the method of claim 1, further comprising:

(e) receiving configuration information about the first FEC code (Col 7, lines 6-13).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Campanella's disclosure to define the specificity of FEC.

6. Claims 10 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Periyalwar in view of Demetrescu in further view of Wager et al. (US 6691273; hereinafter Wager).

Regarding claim 10, Periyalwar in view of Demetrescu discloses all the particulars of the claim but is unclear about the method of claim 9, wherein the

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configuration information is able to be received over an overhead channel from one of a plurality of base stations that are associated with the wireless system.

However Wager does disclose the method of claim 9, wherein the configuration information is able to be received over an overhead channel from one of a plurality of base stations that are associated with the wireless system (Col 1, lines 35-44).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Wager's disclosure to provide transmission of configuration from base station to wireless system.

Regarding claim 14, Periyalwar in view of Demetrescu discloses all the particulars of the claim but is unclear about the first base station is associated with a first channelization code and the second base station is associated with a second channelization code.

However, Wager does disclose the method of claim 1, wherein the first base station is associated with a first channelization code and the second base station is associated with a second channelization code (Col 2, lines 35-45; Fig. 1).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Wager's disclosure to provide distinctions between communicating base stations.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Periyalwar in view of Demetrescu in further view of Chou (6594798 B1).

Regarding claim 11, Periyalwar in view of Demetrescu discloses all the particulars of the claim including the method of claim 1, further comprising:

(f) performing a handover from the first base station to the second base station (Col 5, lines 58-67);

however, Periyalwar in view of Demetrescu does not fully disclose

(e) receiving a third burst of data packets from the first base station, wherein the third burst corresponds to a second service;

(g) receiving a fourth burst of data packets from the second base station, wherein the second burst corresponds to the second service; and

(h) if another error is detected within the fourth burst, correcting the other error by utilizing a second FEC code.

However, Chou does disclose

(e) receiving a third burst of data packets from the first base station, wherein the third burst corresponds to a second service (Col 17, lines 48-51);

it would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Chou's disclosure in the process of handover to provide error-free communication transmission; and

(g) receiving a fourth burst of data packets from the second base station, wherein the second burst corresponds to the second service (Col 18, lines 48-51));

it would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Chou's disclosure in the process of handover to provide error-free communication transmission;

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger in view of Schuster (US 6145109).

Regarding claim 19, Willenegger discloses all the particulars of the claim but is not clear on

(i) determining whether a first data packet is missing from the second burst of data packets; and

(ii) calculating the first data packet from the second burst of data packets in accordance with the FEC code.

However, Schuster does disclose the wireless terminal of claim 18, wherein the processor is configured to perform:

(i) determining whether a first data packet is missing from the second burst of data packets (Abstract; Col 7, lines 13, 44, 58); and

(ii) calculating the first data packet from the second burst of data packets in accordance with the FEC code (Col 8, lines 11-12).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Schuster's disclosure to provide further FEC error detection.

9. Claim 20 - 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willenegger in view of Strawczynski in further view of Frodigh (US 6122293).

Regarding claim 20, Willenegger discloses a service source that sends information to a wireless terminal through a wireless system, the wireless system comprising a first base station and a second base station (Col 2, [0023], [0024], [0025]), comprising:

a storage buffer (Fig. 2, no. 232; Page 9, [0162]);

a network interface (Page 18, [0281]); and

a processor (Fig. 2, no. 214), the processor configured to perform:

(a) obtaining the information from an information source, the information being associated with a service (Page 18, [0274 – 0280]);

(b) forming a plurality of data packets from the information and storing the plurality of data packets into the storage buffer (Page 9, [0162]; Page 18, [0274]);

(e) retrieving the plurality of data packets from the storage buffer (Page 9, [0162] and sending the plurality of data packets to the wireless terminal through the network interface (Page 2, [0027]).

Willenegger discloses all the particulars of the claim and even error correcting coding within a handover (Page 8, Section [0155]; Page 14, Section [0225]) but does not fully disclose

(c) determining a variable forward error correcting (FEC) code that provides a desired degree of robustness corresponding to the service and a possible loss of data packets when the wireless terminal handovers from

the first base station to the second base station, wherein the first base station and the second base station transmit bursts of data packets;
(d) encoding the plurality of data packets in accordance with the forward error correcting (FEC) code; and

However, Strawczynski does disclose handover procedures (Abstract)

(c) determining a forward error correcting (FEC) code (Col 4, lines 23-42) that provides a desired degree of robustness corresponding to the service and a possible loss of data packets when the wireless terminal handovers from the first base station to the second base station, wherein the first base station and the second base station transmit bursts of data packets (Col 6, lines 12-15; Col 9, lines 13-30);

it would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate FEC coding within handover procedures to provide error-free communication;

(d) encoding the plurality of data packets in accordance with the forward error correcting (FEC) code (Col 4, lines 23-31);

it would have been obvious to one ordinarily skilled in the art at the time of invention to apply the FEC code to all packets to check for errors in all packets within the communication process.

Willenegger in view of Strawczynski discloses all the particulars of the claim except that the FEC codes are variable FEC codes.

However, Frodigh does disclose the usage of a variable/dynamic use of FEC coding scheme (Col 2, lines 25-45).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Frodigh's disclosure to provide a more desired degree of robustness to accommodate the increase number of users by decreasing interference.

Regarding claim 21, Strawczynski discloses the service source of claim.20, wherein (c) comprises:

- (i) receiving at least one parameter about the FEC code (Page 4, lines 28-31, 36-38; Page 6, lines 13-15).

Regarding claim 22, Strawczynski discloses the service source of claim 20, wherein the FEC code is determined in accordance with a potential loss of data packets when a wireless terminal performs a handover (Col 4, lines 14-48; Col 7, lines 38-44).

Regarding claim 23, Strawczynski discloses the service source of claim 20, wherein the FEC code is selected in accordance with the service (correcting speech or data) (Col 4, lines 36-42).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Huynh whose telephone number is 571-272-7866. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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